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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.               | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------------|------------------|
| 10/036,325   | 12/26/2001  | Akira Matsumoto      | 791_181                           | 3228             |
| 25191  | 7590        | 03/22/2007           |                                   |                  |
| BURR & BROWN<br>PO BOX 7068<br>SYRACUSE, NY 13261-7068 |             |                      | EXAMINER<br>CHEVALIER, ALICIA ANN |                  |
|  |             |                      | ART UNIT                          | PAPER NUMBER     |
|  |             |                      | 1772                              |                  |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 03/22/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/036,325 | <b>Applicant(s)</b><br>MATSUMOTO ET AL. |  |
|                              | <b>Examiner</b><br>Alicia Chevalier  | <b>Art Unit</b><br>1772                 |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-6 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-6 and 20-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/23/07</u> . | 6) <input type="checkbox"/> Other: _____  |

### **RESPONSE TO AMENDMENT**

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. Claims 2-6 and 20-23 are pending in the application, claims 1 and 7-19 have been cancelled.

### ***WITHDRAWN REJECTIONS***

3. The 35 U.S.C. §103 rejection of claims 2-6 and 20-23 as over Kozuka et al. (JP 06-230246), made of record in office action mailed June 14, 2006, pages 2-3, paragraph #3 has been withdrawn due to Applicant's arguments in the response filed February 26, 2007.

### ***NEW REJECTIONS***

4. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

### ***Claim Rejections - 35 USC § 112***

5. Claims 2-6 and 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term “polarization-maintaining fiber(s)” in claim 21 is unclear and renders the claim vague and indefinite. It is unclear from the specification and claims what types of fibers are polarization-maintaining fibers are, e.g. glass, carbon, metal, etc.

Claims 2-6 and 20-23 are indefinite because they fail to set forth the composition or structure of the “polarization-maintaining fiber” or the “cured ribbon” and only claim properties of the fibers and ribbon. Claims that merely set forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such characteristics are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in the future. Ex parte Slob (PO BdApp) 157 USPQ 172.

The phrase “a cured ribbon portion having ... a length of 2 to 300 mm surrounding at least some of the polarization-maintaining fibers” in claim 21 is unclear and renders the claim vague and indefinite. The examiner wonders is Applicant meant a cured ribbon portion having a length of 2 to 300 mm *and* surrounding at least some of the polarization-maintaining fibers.

The phrase “can be” in claim 21 is unclear and renders the claim vague and indefinite. The phrase “can be” is essentially the same as “optional.” Therefore, it is unclear whether Applicant wishes the limitation that follow the phrase “can be” to be optional or not.

### ***Claim Rejections - 35 USC § 103***

6. Claims 2-6 and 20-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Mills (U.S. Patent No. 5,761,363) in view of Pleibel et al. (U.S. Patent No. 4,274,854), Logan et al. (U.S. Patent No. 6,192,178) and Cooke et al. (U.S. Patent No. 5,561,731).

Regarding Applicant's claims 20 and 21, Mills discloses an optical array made of a ribboned optical fiber (*optical fiber ribbon, title*) comprising a plurality of optical fibers (*col. 3, lines 10-12 and figures 1 and 3*) and a cured ribbon portion (*protective common outer matrix coating, col. 3, lines 18-21 and figures 1 and 3*). The cured ribbon portion is deemed to have a first and second lateral ends and surrounding at least some of the optical fibers (*figures 1 and 3*). The optical fibers extend individually from the second end of the ribbon portion (*figures 1 and 3*). The ribbon portion comprises at least an external exposed surface comprising a material that can be stripped to expose the optical fibers without damaging the optical fibers (*col. 1, lines 54-58*).

Mills fails to disclose that the optical fibers are polarization-maintaining fibers or that the ribbon portion has a length of 2 to 300 mm.

Pleibel discloses optical fibers that are polarization maintaining fibers (*title*). Polarization maintaining optical fibers are preferred because maintaining linear polarization is important for efficient coupling between single-mode fibers and polarization sensitive optical devices and for achieving maximum gains in fiber Raman and parametric oscillators and amplifiers (*col. 1, lines 10-15*).

Logan discloses a ribbon length of 200 mm to 1000 mm (*col. 5, lines 9-11*). Cooke discloses a ribbon length of 10 cm, i.e. 100 mm (*col. 2, lines 5-7*).

Therefore, the exact length of the ribbon is deemed to be a result effective variable with regard to the intended use of the ribbon. It would require routine experimentation to determine the optimum value of a result effective variable, such as ribbon length, in the absence of a showing of criticality in the claimed ribbon length. *In re Boesch*, 205 USPQ 215 (CCPA 1980),

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*In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). One of ordinary skill in the art would have been motivated by Logan and Cooke to have a ribbon portion length of 2 to 300 mm.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use polarization maintain fibers as the optical fibers in Mills as taught by Pleibel because polarization maintaining fiber are preferred because to maintaining linear polarization is important for efficient coupling between single-mode fibers and polarization sensitive optical devices and for achieving maximum gains in fiber Raman and parametric oscillators and amplifiers.

Regarding Applicant's claim 22, Mills discloses that at least some of the optical fibers also extend from the first lateral end of the ribbon portion (*figures 1 and 3*).

Regarding Applicant's claim 23, Mills discloses that the cured ribbon portion is a cured adhesive, since the protective common outer matrix coating bonds the fibers together and promotes tight adhesion (*col. 2, lines 20-29*).

Regarding Applicant's claim 2, Mills discloses that the ribbon portion is formed by fixing and coating the optical fibers with an adhesive (*col. 2, lines 20-29 and figures 1 and 3*).

Regarding Applicant's claims 3-6, Mills discloses that the ribbon portion further comprises positioning means (*col. 3, line 17 and the figures*) which are deemed to maintain alignment of the optical fibers. The positioning means form as a series of convex and concave shapes, which are disposed at regular pitch and a curved wavy shape (*figures 1 and 3*).

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***ANSWERS TO APPLICANT'S ARGUMENTS***

7. Applicant's arguments in response filed February 26, 2007 regarding the previous rejections of record have been considered but are moot due to the new grounds of rejection.

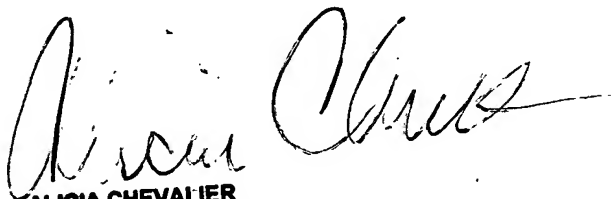
***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ac  
3/19/07



**ALICIA CHEVALIER  
PRIMARY EXAMINER**